



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,525	12/29/2006	Ryushin Omasa	56283/DBP/E349	3001
23363 7590 09/24/2010 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068				
EXAMINER ALLEN, CAMERON J				
ART UNIT 1797		PAPER NUMBER		
MAIL DATE 09/24/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,525

Applicant(s)

OMASA, RYUSHIN

Examiner

CAMERON J. ALLEN

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/G6/6)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date 2/03/2010, 2/24/2009, 1/31/2007, 10/24/2005

DETAILED ACTION

Election/Restrictions

Claims 1-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group I active antiseptic water, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/28/2010.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8-10 and 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the photocatalyst or the photocatalyst and bactericidal metal" in line 13 starting with word 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the photocatalyst or the photocatalyst and bactericidal metal" in line 13 starting with word 10. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the photocatalyst or the photocatalyst and bactericidal metal" in line 14 starting with word 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 24-26 recites the limitation "the photocatalyst or the photocatalyst and bactericidal metal" in the section denoted (ii). There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-13 are rejected under 35 U.S.C. 102(b) as being anticipated by US publication Omasa 2001/0053332 A1.

Regarding claims 6-13, the Omasa reference discloses a treatment tank 13 a vibrational stirrer (0130) with a photocatalyst on a vane of the stirrer, (0135 TiO₂) and sterilizing metal on the stirrer vane in the treatment tank a light irradiator (0019) and magnetic force generating device (00141). It also discloses using a vibrational generator, rod, and vane fixed to the rod (007-0012) generating a vibration between 10 and 200 Hz with amplitude of 0.1 to 10mm (0018) and the device inherently breaks down halogen compounds when used on water as disclosed in section (0027) and table 3 discloses the device can be used at time intervals between 0 and 90 mins. The flow velocity is greater than 150 mm/sec (200) measured in 3 dimensions. (0187) The device exposes the fluid, the photo catalyst and bactericidal metal to the ultra sonic waves.(Abstract) The reference also discloses the use of a rubber ring between the

vibrating rod and the vibrational transfer member. (0075-0076) Rubber is inherently non conductive. The sterilizing metallic compound is also an anodic film. (0138) Since the device and method are the same as claimed, the product is the same as claimed.

Regarding claims 12 and 13, the Omasa reference discloses the method of claim 6 wherein the flow velocity of the treated fluid produced by vibration stirring is over 150 mm/second (200mm/second) (0159) and wherein the treated fluid and photocatalyst are exposed to ultrasonic waves. (Abstract)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over smasa in view of Nishii et al US 6,468,428 B1.

Regarding claims 14-19, 21, 23-35 and 37 the Omasa reference discloses an apparatus/method capable of producing active antiseptic water. The reference discloses a treatment tank 13 a vibrational stirrer (0130) with a photo catalyst on a vane of the stirrer, (0135 TiO₂) and sterilizing metal (Abstract) on the stirrer vane in the treatment tank, a light irradiator (0019) and magnetic force generating device (00141). It also discloses using a vibrational generator, rod, and vane fixed to the rod (0007-0012, 0081) generating a vibration between 10 and 200 Hz with amplitude of 0.1 to

10mm (0018) and the device inherently breaks down halogen compounds when used on water as disclosed in paragraph (0027) and table 3 discloses the device can be used at time intervals between 0 and 90 mins. The reference also discloses the use of a rubber ring between the vibrating rod and the vibrational transfer member. (0075-0076, 0080, 0090) Rubber is inherently non conductive. The sterilizing metallic compound is also an anodic film. (0138) Since the device and method are the same as claimed, the product is the same as claimed.

The reference does not disclose the use of a light leaking portion near or in contact with the photo catalyst layer and connecting the optical fiber to the light leaking portion.

The Nishii reference does disclose the use of an optical fiber that leaks or exposes light to a catalyst layer. The reference discloses that the leaked light would provide sterilization to matters to be sterilized. (Column 9 lines 21-30)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Omasa reference by using the optical fiber, light leaking portion and photo catalyst device and locate it near or on the photo catalyst, since the Nishii reference discloses it would yield the expected result of providing sterilization to matter to be sterilized.

Regarding claim 22, Omasa in view of Nishii discloses the device/method described in the instant claim. The device rejection is listed above in claims 14-16. The rejections are applied to the instant claim in the same manner. The Omasa reference also discloses the use of the device as applied above also. Table 3 further discloses

the device can be used at time intervals between 0 and 90 mins. including over 1 min and less than 30 mins.

Regarding claims 20 and 36, Omasa in view of Nishii discloses the device of claims 14 and 30, the Omasa reference discloses that the vane member vibrates (0081) and can be located at different angles (0086), can be made out of a plate (0093), the vane formed of sterilizing metal (0073) or photo catalyst. (TiO₂)(0135)(0136) The vane is located in the horizontal position also known as the position that least obstructs the flow. (0073) The Nishii reference discloses that the light leaking portion is near the catalyst. It would have been obvious to one of ordinary skill in the art at time of the invention to modify the light leaking portion and locate it on the vane, since it would provide the expected result of providing its intended function of providing photo treatment at any location it is located. Mere relocation of parts is within the ordinary skill of one in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMERON J. ALLEN whose telephone number is (571)270-3164. The examiner can normally be reached on M-Th 9-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJA

/Walter D. Griffin/
Supervisory Patent Examiner, Art Unit 1797